



# ANNUAL REPORT 2014-2015

MATHEMATICAL ASSOCIATION



supporting mathematics in education

## President's Report

There are two framed records of MA Presidents on the wall of HQ, going all the way back to 1871. I've pondered on those names during the less compelling episodes at Council meetings. Although I had heard of a good many, there were others whose names were not familiar to me. So, as I prepared my input to conference this year, I did some research into who my predecessors were. I discovered what an amazing heritage lies in the MA – and whereas I was immensely pleased, honoured and proud when asked to take up the role for 2014/2015, I felt completely overawed when I understood the calibre of those who preceded me.

Did you know, for example, that in the ranks are Joseph Larmor, Alfred North Whitehead, G.H Hardy, Mary Cartwright – eminent mathematicians, authors, educators and policy makers, and one MP? They include 5 knights of the Realm (including a Dame and a Lady), many with other honours, and 42 Professors. It is with some embarrassment then, that I here relate my career to date. It's a poor thing by comparison to the likes of Michael Atiyah or Christopher Zeeman but if you do choose to skip the next part please do check back in for the last paragraph....

My parents were both teachers, and met in Llandrindod Wells whilst doing emergency training just after the war. They were two of the many Welsh teachers who immigrated to England, in their case to the West Midlands, which is where I was born, and which accent I slip back into easily when I return there. My mother taught infants and my father taught secondary mathematics. He was a member of the MA and one of my early memories is sitting in the downstairs loo flicking through the red-covered *Gazettes* and wondering what all those hieroglyphics were all about.

I was a good student, was accelerated through 'O' levels and found myself at 14 taking double mathematics and physics as the only girl in the class (something I found quite an advantage when it came to needing help with my homework). There were some very, very able boys and I soon realised that actually I was pretty average and that a future as a successful mathematician was unlikely. However teaching was in my blood and so I read Psychology at UCL, thinking that might be useful in the classroom (it wasn't). I look back on those university years



now and do think there's some truth in the adage that education may be wasted on the young – I was only 17 and spent most of my degree years growing up rather than studying. Despite a rather mundane result I was accepted for the PGCE course in Oxford by John Backhouse and life took off, personally and professionally. I met the love of my life and found myself launched into the most marvellous career. Of course, teaching was a different kettle of fish then – nothing like the current pressures - but once I'd got my first job and tasted the responsibility and power of the classroom I just couldn't believe that I was so lucky and got paid for it as well.

It must have been about this time that I joined the MA though I don't remember making a conscious decision to do so. I became increasingly aware that my PGCE had not really equipped me for teaching in a comprehensive school as I had few strategies to help students who struggled, so I took the MA Diploma course and was hooked on studying once more.

The first of our four daughters was born. I suppose teachers of mathematics were thin on the ground then too, for I managed to keep one foot in the employment door through tutoring and becoming involved with Westminster College. As my children became more independent I gradually became a permanent member of

staff and by the time I left, some 20 years later, I was Principal Lecturer and a senior academic in the Research Centre for Able Pupils. En-route: we lived in the US for a year, (a marvellous opportunity to see the UK system through a different lens); I home-schooled our four children for a year each; I was head teacher of a small primary school; and I began editing the MA Primary Mathematics journal.

We then moved to Scotland where I taught part-time and lead PGCE and BEd courses at Moray House, and developed a 'portfolio' career which involved writing, studying, secondary teaching, examining and travelling all over the world offering professional development. Everything I did contributed to my overall knowledge and convinced me that it's only by being in many different classrooms in many different contexts that you can talk with real understanding about mathematics education. The only job that would have enticed me to change was at NRICH.

NRICH is unique. Although funding was sometimes perilous, the project is independent of political interference and has a deeply held philosophy of what and how mathematics should best be learned. NRICH gave me the opportunity to engage with the national scene and in particular ACME, and to advise on the writing of the new National Curriculum (though this latter I do not consider to have been one of my greatest successes), as well as experience the sheer joy of creating rich tasks and working with thousands of teachers who want to teach in a meaningful way. I hope to carry the best of NRICH into my new role at Cambridge Mathematics – a University project at the culmination of my career which is a wonderful opportunity to inspire and educate learners across the world. I hope it will make a difference.

So my Presidency spanned my work at NRICH and Cambridge Mathematics, both of which supported me in that role. If you were at the Annual Conference this year (and if you weren't, you missed a treat) then you will understand when I say that this year has been fascinating and challenging in equal measure. Fascinating because being President means meeting people who are passionate about mathematics countrywide, and having your opinions listened to (even if not acted upon) by policy makers and strategists alike. Challenging because, to return to the beginning of this article, I feel a heavy responsibility to current and past members of MA to ensure its continuation. I have written elsewhere about the ways we are changing our practices but the bottom line is that the MA is in danger of having too few members to call itself a representative organisation and have any clout in the national arena. This is something we have always done efficiently and effectively and I hope we always will. We need to ensure that we need that third frame on the MA HQ wall for future presidents.

*Lynne McClure (President 2014-2015)*

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#### **Chair's Report from Council**

Council meets quarterly on Saturdays at MA Headquarters. The normal pattern for a Council meeting is to start at 10.30 and finish at 15.30 with a lunch break of roughly 30 minutes. Five hours is about the limit for

intense discussion as thereafter fatigue sets in. During that time a huge amount of business has to be transacted. Major items come at the top of the agenda. Later on in the meeting, some reports from committees might be accepted without debate when there are no major issues.

In between each Council meeting there is a meeting of Standing Committee which again typically lasts for about five hours. Each such meeting reviews the outcome of the previous Council meeting and prepares the ground for the next. The emphasis tends to be on matters of strategy rather than on the fine detail of reports from committees. Standing Committee has the power to act on Council's behalf if an issue arises which has to be handled quickly but it has to report to the next Council meeting on the action it has taken.

A major event during the year took place in June when the normal Council meeting was expanded into a two-day residential meeting, held at the Leicester Marriott Hotel. Saturday was given over to a wide-ranging brain-storming session on strategy led by the President, Lynne McClure. The continuing decline in membership and possible ways to address the problem formed one of the main issues driving the discussions. Many ideas were forthcoming and these were distilled into six Strategic Aims covering such areas as a vision for the future of the MA, increasing membership, communication with government and the public, collaboration with other relevant organisations and the use of modern technology. Within each Strategic Aim there were various subheadings and each was assigned a priority and a timescale of 1 year, 3 years or 5 years for the task to be completed by Council and the relevant committees. The document sets ambitious targets and progress in the first year will be reviewed in detail at the June 2015 Council meeting. There was an opportunity to relax and socialise on the Saturday evening before a normal Council meeting on the Sunday morning.

The President produced another thought-provoking paper at the December Council meeting. This raised issues related to the size of Council, the frequency of meetings and the use of modern technology. Some of the suggestions were quite radical and generated lively debate which will continue over the next year.

Work continued to rationalise the Association's various governing documents, comprising the Rules and Regulations, both of which have been in operation for many years, and the Memorandum and the Articles of Association, which are the result of the MA becoming a Company Limited by Guarantee. In some instances the documents are inconsistent. The work culminated in motions to the 2015 AGM, the effect of which was to dispense with the Rules, with each Rule being incorporated into either the Memorandum and Articles, if deemed sufficiently important, or the Regulations, if of lesser importance. In addition Standing Committee scrutinised a number of documents. Some related to staff and updates to the Employee Handbook, Pay Policy and Job Descriptions were finalised. Others related to risk management, prevention of fraud and Health and Safety. Now that this major exercise has been completed, the documents will be reviewed regularly by Council according to an agreed timetable.

The development of the new website has given Council plenty to think about. The website is seen as an important ingredient in the drive for new members. It had been hoped to have the new website up and running by the summer of 2014. Unfortunately because of various unforeseen circumstances, development work has taken much longer than intended. However, things are again moving forward. The new website will automate a lot of the mundane tasks currently performed by HQ staff for membership, publications and events but this means that databases need to be integrated and function correctly. For instance, shop sales will be linked to the membership database so that members can benefit from discounts, where applicable.

The accounts for the year ended 31 December 2014 showed a loss of around £6,000. This is a considerable improvement on the loss of around £25,000 in the previous year. In addition to aiming to increase income by attracting new members, Council has been examining other possible income streams. One pleasing aspect is the income from publications, notably the GCSE Revision Cards which have proved very popular and are now available also in poster form.

Another very positive development has been the signing of a 5-year agreement with Cambridge University Press (CUP) in respect of *The Mathematical Gazette* which came into effect in January 2015. The view had been expressed by CUP that the *Gazette* was a great asset from which the MA was not deriving maximum benefit. CUP will assist with the marketing of the *Gazette* while the MA retains editorial control. Changes to the production process have gone fairly smoothly and the first issue under the new arrangements appeared on schedule in March 2015. Based on CUP's financial predictions, this link-up could prove to be very lucrative for the MA.

The MA continues to work with the ATM and a small committee has been established to discuss possible joint activities. The initial focus was the possibility of a joint conference in 2016. Unfortunately the process ran into a major difficulty when it was discovered that the existing constitution of the ATM did not allow for the setting-up of a subsidiary company without the approval of the ATM membership. Despite valiant efforts by the MA representatives, in the end it may well prove impossible to have a joint conference in 2016. However, the MA remains committed to trying to hold a joint conference, as well as exploring areas such as joint primary membership and joint badging of appropriate publications.

The MA's Wittgenstein archive continues to be on loan to Trinity College, Cambridge. It is increasingly attracting the attention of distinguished Wittgenstein scholars from various parts of the world. The Archive has been completely digitised by Trinity College.

The various committees are the backbone of the MA. Reports on their activities can be found later in this Annual Report and so I shall not duplicate details. However, I should like to make a few remarks.

As Chair of Branches, Dave Pountney has been doing an admirable job of trying to reinvigorate the various branches. An Exeter branch has been set up by Sue

Waring, and in Cambridge a joint MA/ATM branch, led by Lynne McClure et al, has held its first few meetings. Unfortunately a small number of branches have ceased to exist. The Professional Development Committee runs two highly successful annual events, namely a Secondary Conference at Stirling in September (organised by Bill Richardson) and a Primary PD day at High Wycombe (organised by Julia Brown, Chair of the Committee and Peter Ransom).

Teaching Committee carries by far the heaviest load of all committees. The deluge of consultations has continued unabated. We are fortunate to have a group of people who are able to mould a wide range of opinions into coherent and cogent responses and position papers. Although it might seem invidious to mention individuals, I should like to acknowledge the major contributions from Rachael Horsman, Sue Forrest and David Miles. Many of the fruits of their labours can be found on the *We Say* section of the website. That Teaching Committee operates so effectively is a tribute to the huge amount of work carried out by Rachael as Chair and Sue as Secretary. Also David is expert at spotting important items on websites such as those of the DfE and Ofqual.

The 2015 Annual General Meeting took place on 8 April 2015 during the Annual Conference at Keele University. At each AGM, various members of Council and committees come to the end of their terms of office. In particular Sue Forrest has come to the end of her term as secretary of Teaching Committee. Her devotion to duty, meticulous preparation of all the paperwork for each meeting and co-ordinating responses to consultations have been exemplary. It was fitting that this should be publicly recognised at the AGM when Sue was presented with a crystal plaque.

Those stepping down from Council included Fiona Allan and Paul Metcalf. Fiona served as Chair of the embryonic Publicity and Media Committee and prior to that represented the Members without Office on Standing Committee. Paul Metcalf is a real stalwart of the MA, having been continuously on Council for not far short of twenty years. During that period he has been Treasurer, Editor-in-Chief, Chair of Publications Committee and the Member of Council with responsibility for Headquarters. We thank Paul most warmly for this outstanding service to the MA. There is always one other person standing down at each AGM, namely the retiring President. Lynne McClure took a very lively interest in MA affairs during her presidential year, generating lots of ideas for Council to discuss and representing the MA at a whole range of events all over the country. She is succeeded as President by Peter Neumann.

Finally my five-year term as Chair of Council has come to an end. It was a privilege and honour to be asked to serve as Chair. It has turned out to be almost a full-time job which has been very enjoyable and, at times, challenging. I should like to thank all members of Council as well as members of all the committees and subcommittees who give up a great deal of their own time preparing for, travelling to and attending meetings and generally furthering the aims of the Association. I should also like to thank Marcia Murray and her staff at HQ for all their

support and hard work behind the scenes. The membership at large owes them a huge debt of gratitude. My successor is Peter Ransom and under his leadership the MA will be well placed to face the many challenges ahead.

**Adam McBride (Chair of Council)**

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### Branches Committee

The Branches Committee met twice during the year, once in October 2014 at HQ and also immediately after the MA Conference at Keele in April 2015. At the October meeting, the morning was spent covering usual 'Branches business'. Individual Branch programmes of events for the academic year were presented; Branch finances confirmed; Committee officers were elected; reports from other MA committees were received. The afternoon session was spent discussing individual Branch events and issues. Sadly, after some discussion of the future prospects for both the London and Glasgow Branches and following appeals for local MA members for help, it was agreed to recommend the formal closure of the London Branch (an established Branch) and to recommend that the Glasgow Branch (a designated Branch) have its MA designation removed. These recommendations were presented and approved at the December meeting of the MA Council. Thanks to Geoff Dolamore and his colleagues on the London Branch organising committee, who tried valiantly to keep the Branch going, were recorded. On a more positive note, the continued activities at Exeter and Cambridge Branches were acknowledged and welcomed. It was also recognised that closer collaboration with mathematics hubs offered the best way forward in the development of future new Branches.

The April meeting reported on the year so far. It was noted that Branch events run and planned were generally similar in number to 2013-14 and audience figures quoted were generally encouraging, particularly for teacher-oriented events and events aimed specifically at students. The meeting continued to discuss how advertising of branch events could be better coordinated between *MA News*, MA website, MA monthly e-letter and targeted emails to MA members living locally to events. The whole issue of advertising, publicity and the impact of social media such as Facebook and Twitter on Branches and Branch events remains an issue both locally in Branches and for the MA as a whole. The issue of 'best practice' of the selling of books at Branch events remains. Some Branches are very successful at selling books at local events, especially the branches close to MA HQ and where book copies are readily available for perusal. This is less easy for Branches some way from HQ. Some sort of 'generic book-stall' for Branch events that would enable easy payment and sales may need to be examined by Branches Committee and HQ staff.

Branches Committee continue to try and encourage local Branch members to attend MA Conference. This year, Branches were invited to nominate members who had never been to MA Conference before to apply for a subsidy of £375 to cover the cost of a place at Conference. A young member from the East Midlands Branch was successful in her nomination and duly attended the Conference at Keele. Her report of her experiences at

Conference is awaited and will be published in *MA News* and elsewhere as appropriate, in an attempt to further promote the advantages to members of attending Conference. This Branches initiative will be repeated next year.

In summary, 2014-15 has been one of 'ups and downs' for Branches. Pressures on Branch activity remain, with some local Branch committees struggling to attract new (younger?) colleagues. Despite this, 2014-15 has seen a good number of examples of well-run events, with many teachers and their students responding very positively about the benefits of such events. Local Branch officers remain enthusiastic about what they do. As ever, the Branches Committee will do everything it can to maintain and expand the activities of its Branches in the coming years.

**Dave Pountney (Chair of Branches)**

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### Annual Conference 2015

We were very pleased to have our annual conference at Keele University this year. We were last there in 2012 and the venue is all well contained with rooms all in the one building and not far from the accommodation. Most attendees arrived on Wednesday 8<sup>th</sup> April, though one or two arrived (on purpose!) the previous day, some to help set up the conference, some to get settled in early or visit friends in the area.

The Opening Session (which combined lecture and discussion) was given by Professor Mike Askew who, to fit in with the conference theme of '*Fluency and Understanding – a Mathematically Balanced World*', entitled his session '*What counts in a balanced mathematics education?*' We looked at whether the curriculum follows a path that starts with the intended curriculum, followed by the enacted curriculum leading to the attained curriculum (which is NOT the same as the assessed curriculum). This was an excellent start to the conference that humorously engaged people in serious discussion.

We then went to our choice of eight different sessions covering all divisions of mathematics and mathematics education. After an hour another seven sessions were on offer and then before the evening meal we held our AGM, a full report of which will appear in *MA News*. Pre-prandial drinks were available for the speakers at conference and a friend of the MA provided drinks for everyone at the meal. These were finished off at the most excellent quiz kindly written by the quizmaster David Crawford. This was a hugely successful event as everyone managed to find something that suited their strengths, though for some the music questions were quite demanding due to the fact that they were written after about 1960! Texas Instruments kindly provided the prizes for the quiz and also sponsored the reception at the Publishers' Exhibition the following day.

On the Thursday Ruth Merttens' plenary session (*On Prescription only: the new national Curriculum*) started the day with something that had us talking for a long time afterwards. We always need to keep in mind when teaching our children what is realistic and unrealistic about the mathematical education we hear from the Far

East. This was followed by two slots where attendees chose the session (in advance of the conference) they wished to see. A buffet-style lunch was served in the Publishers' Exhibition so that we had a good opportunity to acquaint ourselves with current materials that are available. Thanks were given to our sponsors: Texas Instruments and OCR.

The afternoon session was Lynne McClure's Presidential Address, which started with a potted history of the MA and some of its presidents since 1871. We then engaged in a fruitful interactive discussion of why membership is declining and Lynne summarised our suggestions of how we can move forward in the future. This will be tremendous material to keep Council busy and make sure that our association is fit for purpose in the times to come. Lynne's session will be printed the November edition of *The Mathematical Gazette*.

Two more sessions followed with seven and six options available. Then we held our open meeting of Teaching Committee (TC) which is one of our great strengths of the MA. Aably chaired by Rachael Horsman TC has sub-committees to deal with primary, 11-16 and Post-16 mathematical education. TC submits responses to consultations and participates in dialogue with government. They reported that there are times when the Government has moved after receiving our letters. Our position on various matters can be seen on the MA website under *We say*. We also bid a fond farewell to Sue Forrest, the secretary of TC. She has come to the end of her term as secretary and has given great service to the MA. Rachel presented her with flowers and a gift to add to the commemorative plaque Sue was given at the AGM the previous day.

There was a brief interlude for people to get ready for the Annual Dinner at Keele Hall. We all had an enjoyable drinks reception followed by an excellent dinner. The After Dinner Speaker was the famed mathematician Andrew Jeffrey who kept us entertained with magic mathematics for a good half-hour, despite the fact that he was travelling to Paris the following day to run a marathon.

The final morning comprised two more sets of parallel sessions and Alex Bellos' Closing Lecture during which he talked about his research to find what was people's favourite number. As you can probably imagine this was odd (the number, not the talk!). This brought to a close another excellent conference that was followed by meetings of Branches Committee and Standing Committee. The feedback received indicates that for interest and enjoyment the conference scored 4.7 out of 5, so my thanks go to all the speakers, sponsors, organisers, helpers and delegates who made this such an enjoyable event.

***Peter Ransom (Chair of Conference)***

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#### **Professional Development Committee**

During the year 2014-15 the Professional Development Committee met three times formally and held some smaller meetings via Skype. Our focus is to provide quality professional development for classroom teachers and to this end we have been investigating how we can

work with the 34 newly formed Mathematics Hubs in addition to our existing work.

Our two main events this year have been the 9<sup>th</sup> Annual Scottish One-day Conference for Teachers of Secondary Mathematics at the University of Stirling on Saturday 6 September 2014. Bill Richardson organised this event which continues to be a great success and again received very good feedback from the delegates who attended. The venue continues to serve us well and a **date of Saturday 5 September has been provisionally agreed for the next conference.**

The Primary Mathematics PD Day took place on Saturday 8 November 2014. Now in its third year this day was hosted again by Wycombe High School. Lynne McClure gave a very inspiring opening plenary and together with Peter stepped into the breach and wrote and delivered sessions at very short notice when one of the other speakers injured himself just days before the event! A last minute flurry of applications took our numbers to over 80 (up on the 55 who attended last year) and feedback from the delegates was overall very good with 'enjoyment' rated as 4.4 out of 5' and 'usefulness for CPD' as 4 out of 5; figures which were consistent with last year. A particular thank you is due to Lynne and Peter for all their work and support in making this event such a success.

As a committee we are looking at how we can support the Mathematics Hubs. We are in the process of putting together a list of speakers and their contact details who the MA would be happy to recommend. However, the committee is quite small and whilst we may be able to offer some advice if contacted we do not have the capacity to help organise local conferences.

The MA, as a strategic partner of the Bucks, Berks and Oxon Mathematics Hub is working in partnership with the hub to lead a conference for Mathematics Subject Leaders at the Holiday Inn, High Wycombe on 30 June. The majority of the workshop leads also presented at the MA conference this Easter. The event is subsidised by the Hub, which will be doing all the administration but the MA will hopefully benefit from the advertising of the Association in the conference packs and a bookstall they will be running on the day. We will review the benefits to the MA and consider rolling out the idea at other hub conferences if it is financially viable.

As with all good committees the members are busy people and go on to greater things! Whilst I am trying hard to keep them, Peter Ransom has now taken on Chair of the MA Council and Jennie Golding is preparing to take on the MA presidency in 2016. Both have made an enormous contribution and we are indebted to them for the time they have both given to support our work. I would also like to thank Pip Huyton who has stepped down from the PD Committee after many years, we wish her well.

We have recruited some equally busy replacements for them both but are still seeking a secretary for the PD Committee.

***Julia Brown (Chair of Professional Development)***

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## Publications Committee

The Committee consisted of me, Michael Fox, Paul Harris, Mary Ledwick, Cherri Moseley, Chris Pritchard, Bill Richardson and Sue Waring.

The year has ended as it began – very well indeed. Our budget was for sales of £55K and a surplus of £20K. At the end of the year our numbers exceeded this providing a net surplus of some £25K; this supports the many other activities and projects of the association. A single series drives this success – our ever growing GCSE revision cards. This was the creation of Mary Ledwick, and I use that word with care since she not only wrote them but illustrated them as well. But it would be wrong to conclude that this is a one hit story, other titles continue to do well. We now create and successfully market a Calendar. It is pleasure, here, to record the input and expertise from Teaching Committee in this and all our titles. Absolutely invaluable, and on your behalf I would like to offer them my thanks and appreciation.

Our on-line presence continues to grow and this is particularly important as it is largely to non-members. We have recently worked in concert with the Membership Committee to develop a membership fact sheet/application that is despatched with all orders. We hope that this will result in gains in that critical area.

We look forward to another year of continuing success, finding new ideas and the people to develop them through to publication. Alongside this is the challenge to ensure the longevity of existing titles, and that there are successors being developed in the wings. Amongst these is a new version of the revision cards that offers students of the new GCSE launched this summer with the same opportunities as students of the existing GCSE. That is now well advanced and we shall market it in the new school year.

Again I give my thanks to the Committee for all their dedicated hard work over the last year, and to all the others who give their time and expertise in preparing resources for publication.

**Barry Lewis (Chair of Publications)**

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## Editorial Board

First, I would like to express my gratitude to the editorial and production teams who do such a brilliant job of producing the journals for the Association. In particular I would like to thank the following for their tireless work:

### Editors:

Jenni Back	<i>Primary Mathematics</i>
John Berry	<i>Mathematics in Schools</i>
Ray Gibbons	<i>Equals</i>
Ray Huntley	<i>Primary Mathematics</i>
Gerry Leversha	<i>Mathematical Gazette</i>
Cherri Moseley	<i>Primary Mathematics</i>
Chris Pritchard	<i>Mathematics in Schools</i>
Peter Ransom	<i>SYMMetryplus</i>
Will Ransom	<i>Mathematical Pie</i>

Sue Waring

(& Erik Gooding for *Pie Notes*)  
*MA News*

### Production Teams

Helen Morris

*Mathematics in Schools* and  
*Primary Mathematics*

Bill Richardson

*Mathematical Gazette*

Tina Webb

*Mathematics in Schools.*

### Advertising

Janet Powell

Without the hard work of the above, and many others who do tasks such as the proof reading and editing the reviews, the Association would not have such a wide range of excellent journals. I would also like to thank the staff at HQ for all the assistance that they give to the editors and production teams.

The main event which has affected the work of the Editorial Board this year has been the start of the agreement to collaborate with Cambridge University Press (CUP) on the publishing of *The Mathematical Gazette*. CUP has taken over all the printing and distribution of *The Gazette*, and is now actively marketing the *Gazette* with its other journals. CUP has also undertaken to produce and market an electronic archive of all the editions of *The Gazette*. The extra income generated by CUP, above the printing and distribution costs, will be shared with the Association on 70/30 basis (with 70% of the surplus for The Association) for the printed edition and 50/50 for the electronic edition. At the time of writing the first edition to be produced under this agreement has just been published.

The only major change to the Editorial Boards has been the appointment of a new Editor for *Equals* on-line, the Association's journal aimed at teachers of students with special educational needs. The previous Editor, Ray Gibbons, has decided to step down for personal reasons and both the Association and I thank Ray for all the work that she has done for *Equals*, and its predecessor journal *Struggle*. Alan Edmiston has agreed to take over the role of Lead Editor of *Equals Online*.

Once again I would like to thank the editorial and production teams for their hard work, and I look forward to working with them in 2015/16 so that we may continue to produce the high quality journals of which the Association can be proud of.

**Paul Harris (Editor-in-Chief)**

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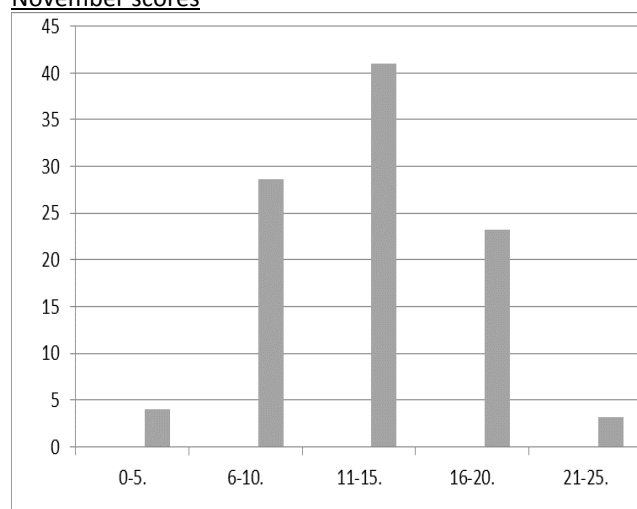
## Primary Mathematics Challenge

There was an increase in the number of PMC papers sold this year with 79 000 pupils in 2035 schools taking part. Interestingly, there was a slight drop in the number of schools this year, from 2100 schools last year. One possible explanation for this is the formation of Mathematics Hubs. Some Hubs have purchased papers for their school cluster.

This year's November paper was pitched at a better level than last year's... which was really tough. The statistics show us fairly clearly that it was more accessible than last year's, with 26% of the group scoring 16 or over,

compared with only 13% last year. 13 pupils scored 25/25 and 66 scored 24/25.

#### November scores



#### Schools taking part

England: 1881    Scotland: 50    Wales: 50  
N. Ireland: 29    Eire: 3    Other: 22

The numbers in Welsh schools rose from 35 to 50, possibly due to the 'blanket mailing' we did for Welsh schools. Figures for Northern Ireland fell from 47 to 29 and for England from 1941 to 1881.

From the scores returned to us we were able to select 1184 pupils who scored 21 or more. They were invited to sit the Bonus paper in February.

The results from the February 2015 Bonus Round showed a good distribution of marks, with 96% pupils gaining scores of 10 or more. The paper seems to have discriminated well at the top end of the scores. We were able to award 50 gold, 153 silver and 327 bronze awards.

There were some problems this year with providing feedback on line. Office staff were able to deal with the scores provided and fed them into the system, but we are hoping next year that these problems will be resolved. As we reported last year, we are hoping that updating the website will allow more schools to enrol on-line and pay on-line, streamlining the process.

Further problems have been caused by having two databases running alongside each other. This needs to be resolved before the next round of PMC.

We introduced a system where all packs were mailed to schools using the Royal Mail tracking system and this does seem to have minimised the postal problems.

We have placed adverts in each copy of *Mathematics in School* and *Primary Mathematics* this year and have also paid for adverts in *Prep School* magazine *SATIPS*.

Copies of PMC papers were sent to the MPs who sit on the cross party committee on mathematics and numeracy, together with a letter asking them to try the papers and to comment on PMC. Only one reply was received, from Nick Gibb. (He is looking forward to attempting the paper). We had hoped The Guardian would follow up this initiative, but despite initial enthusiasm, nothing transpired.

The PMC has once more made a useful contribution towards the finances of The Mathematical Association.

***Lesley Jones (Chair of PMC Management Team)***

#### Library Committee

Professor Gibson's manuscript for a complete published edition of the Archive has been rejected by Cambridge University Press but is now under consideration by the publisher Springer. The complete Archive is still on loan to Trinity College Cambridge and the annual agreement has been renewed. The Archive has been converted to a set of digital files which are available to current MA members from the Archivist at Trinity College after permission has been granted by the Association through the MA Librarian. A proposal to make parts of the Archive publicly available through WittgensteinSource.org at the University of Bergen is under consideration.

#### Hersee Manuscript Collection:

The important contribution of the late Dr Jacqueline Stedall (1950-2014) to the cataloguing and publicising of the Collection was acknowledged in an article for *MA News* (no. 156, Feb. 2015, p. 6). All three hundred items in the Collection can be requested for reference-only use by *bona fide* readers in the Special Collections suite at the David Wilson Library in the University of Leicester

#### Donations and Duplicates:

A growing number of duplicate titles remain in crates at MA HQ for disposal. A few items have been adopted by the STEM Centre for their physical library in York and by MA Council members at the meeting in March 2015. A new donation of mathematics resources, including files and packs, from Robert Carmichael of Walton Girls High School has just been gratefully received at MA HQ. The collection will contribute in excess of one hundred new titles for the MA Library.

#### Links with the STEM Centre in York:

Steve Lyon, the mathematics specialist at the STEM Centre visited MA HQ in September 2014 and since then the physical library at York has been enhanced to include full runs of MA periodicals and up-to-date coverage of MA publications. Proposals for showcasing both MA periodicals and publications in the Centre's e-library have not yet been implemented but the need for such exposure in this major electronic resource centre has been generally accepted and will now be worked upon in detail.

***Mike Price (Librarian, Chair of Library Committee)***

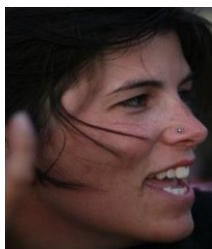
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## Teaching Committee

Teaching Committee

tc-chair@m-a.org.uk

*Chair* Rachael Horsman  
Rachael.horsman.maths@gmail.com



*Secretary* Sue Forrest

In another year of change for the maths community we have remained as busy as ever. Teaching committee along with its three sub-committees have worked tremendously hard to meet the many deadlines

We welcome the new joint chairs of the post 16 group Anne Baker and Jenny Orton. Our thanks go to Tom Button following his hard work and time with the group.

We also say goodbye to Sue Forrest as our secretary. Sue has worked on the committee in various roles for over eight years. We cannot thank her enough for her dedication, enthusiasm, and amazing work. I can safely say that TC would be nowhere without Sue's hard work and support.

The committee has responded to a variety of consultations including;

- Setting the Grade Standards of new GCSEs in England (Ofqual)
- Completing GCSE, AS and A level Reform (Ofqual)
- Reformed GCSE and A level Subject Content (DfE)
- Developing Qualifications for First Teaching (Ofqual)

We have also written to Nicky Morgan raising concerns over the new Early Years baseline assessment and responded to Ofqual regarding the new GCSE specification and specimen assessment materials. David Miles led the development of a *We Say* paper on subject knowledge. All of these documents can be found in the *We Say* section our website.

It's really pleasing that we are able to put forward the views of our members and now with more use of Twitter and Facebook we are able to canvas even more mathematics educators.

My thanks to all those who contributed to the construction of these documents, whether from the greater TC family or from Council. Our input to consultations is essential and only made possible by active members supporting the work of TC.

Whilst completing these tasks the subcommittees continue to produce some excellent publications and work with Oxfam in producing their new resource for KS2 and KS3 *Everyone Counts*.

Over the next year we are hoping that we will be involved even more with the new Mathematics Hubs overseen by the NCETM, continue to work closely with the DfE and develop our resources through the sub-committees and further projects with Oxfam.

My thanks go to the subcommittee Chairs and their members, to our small Advisory Group and to Council. TC members have worked tirelessly to meet the challenges we have faced and the contributions of Chris Pritchard, Peter Thomas, Sue Forrest and particularly David Miles have been noteworthy.

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## ***Rachael Horsman (Chair of Teaching Committee)***



Primary Subcommittee

tc-121@m-a.org.uk

*Chair* Fran Watson

The warmest of welcomes to the new chair of the joint primary group, Alison Borthwick, who has just taken over the role from me after 2 years. Our group comprises primary teachers, university lecturers, teacher trainers, independent writers, consultants and performers, and representatives of mathematical organisations, all of whom are members of the MA or ATM, and we are always pleased to hear from new members who are keen to join us at a termly meeting (two held in London and the third elsewhere in the country.)

The group are delighted that progress has been made in the last 12 months towards a joint primary membership of the MA and the ATM being possible, and look forward to this becoming a reality in the near future.

After much discussion and appreciated input from group members, a joint response to the KS1&2 performance indicators consultation was submitted online in November, and can be viewed on both associations' websites. As too, can copies of the correspondence between the group, Nicky Morgan and David Laws on the subject of the Early Years proposed baseline assessment. Parts of the original letter to Nicky Morgan were published in both *The Guardian* and *Nursery World* in the autumn term.

Members have given generously of their time to attend conferences to promote the work of the associations and support primary teaching and learning as widely as possible. With this in mind, a homework book (to be accessible to both teachers and parents/carers) has been proposed as a publication that we can put together and submit for joint badging by both associations.

Thank you for all the support for the running of the group whilst I have been chair. I have thoroughly enjoyed the chance to work alongside so many different professional roles within primary mathematics education and look forward to the group going from strength to strength with Alison at the helm.

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## ***Fran Watson (Chair of the TC Primary Subcommittee)***





11–16 Subcommittee  
*Chairs* Steve Edwards and  
 Oliver Thomson  
 tc-132@m-a.org.uk

11-16 Subcommittee  
*Chairs* Steve Edwards and Oliver Thomson

This has been another extremely busy year for the subcommittee, and our three meetings during the year were lively and productive. The subcommittee membership is varied, with representatives from the state and independent sectors, teachers and non-teachers with a range of experience, practising and retired. This makes our discussions very well informed and an opportunity to consider different viewpoints.

Perhaps our biggest task this year has been reviewing and discussing the government’s proposed changes to mathematics education in the 11-16 age range. With the abolition of National Curriculum levels in KS3, new programmes of study for KS3 and KS4, and new GCSE exams with a focus on ‘problem solving’, we have had plenty to discuss. As always, we have passed our thoughts and comments through to Rachael and TC for inclusion in the MA’s responses to the numerous consultations.

Following the successful (and profitable) publication of the inaugural *MA Calendar*, we have worked on the 2015 and 2016 editions. Having sifted through all the submissions of photographs, we tried to select those which are aesthetically striking and also prompt some mathematical questions or thought. Many thanks must go to Mary Ledwick, who has led the production of the calendar with relentless enthusiasm and considerable dedication. The 2016 MA calendar should be on sale by the time you read this (or very shortly afterwards), so look out for the advertisements and place your orders!

It may seem surprising that we have found time to do anything else in our meetings this year, but members have also continued to review and discuss teaching resources and have contributed to other MA publications. Looking forward, we have discussed how we would like to spend our time most effectively in future. We want the work we do to be relevant to secondary mathematics teachers, and have considered how we could use the 11-16 page on the MA’s new website most effectively.

If you have any comments about our work, or would like to get involved, please do get in touch – we would be delighted to hear from you!

***Steve Edwards and Oliver Thomson (joint chair TC 11-16 subcommittee)***

Post-16 Subcommittee  
*Chairs* Anne Baker and Jenny Orton  
[tc-129@m-a.org.uk](mailto:tc-129@m-a.org.uk)

The post-16 sub-committee meets termly in London. The chair, Tom Button stepped down from the committee after the meeting in May 2014 and we would like to thank him for all his hard work. At that meeting, we started looking at the MA website and started work on short reviews of useful resources for post-16 mathematics. The aim is to have between five and ten of these on the website which would be existing resources recommended by members of the subcommittee who had personal experience of using them in the classroom. We also agreed that there was a need to spring clean some of the existing materials as many of them are out-of-date.

It has been an effective year in terms of responding to consultations. After our meeting in September, we were able to submit a detailed response to the DfE and Ofqual regarding the new AS and A levels in mathematics and further mathematics. We welcomed the news that these have now been postponed for a year for first teaching in September 2017, but continued to be concerned about the quantity of the content, and where CPD will be coming from for schools with less qualified/experienced staff. Also in September, a special post-16 issue of *Mathematics in School* was published.

In January this year, we were happy to be joined by two new members, which means that now six members currently attend the meetings. We all agreed that one of our priorities should be to share our discussions with the wider teaching community and it was suggested that we create a ‘WordPress’ blog until we are able to update the current website. A site was created at the meeting and will include information about the options available for Level 3 mathematics, including Core Mathematics. The blog is still in the development stage and further pages will be developed and populated, for example links could also be added to the Mathematics Hubs websites. Alongside this resource we would like to work with the Hubs to help provide post-16 teachers with a forum to discuss the new curriculum, disseminate appropriate resources and offer peer support, as well as initiating CPD if appropriate.

We represent a good range of Post-16 environments, but are always interested in any new members so as to be able to strengthen our responses to any consultations and reports. Please contact either of us if you are interested in joining the committee.

***Anne Baker and Jenny Orton (joint chairs TC Post-16 subcommittee)***

**Membership Committee**

The Membership committee continues to work hard to ensure that those who are interested in mathematics and mathematics teaching are fully aware of the benefits of membership and find the process of joining the MA both straightforward and reasonably priced.

What we offer in terms of membership is under constant review to ensure that we retain existing members and

encourage new members to join us. Our successful e-newsletter was launched in early 2015 and work on a more up to date website with increased functionality continues. We are currently exploring the possibility of membership cards and badges. We are also working on some specific membership offers to members of other organisations and have also considered introducing a Retired Membership category, at a reduced rate. Unfortunately, our demographics mean that it is simply too costly to the association to introduce this at this time.

In September 2014 we emailed and wrote to every school in the UK. This resulted in only 23 new members, a mixture of schools and individuals. Every year we contact all the various universities and groups which offer mathematics at degree level and teacher training to invite those who are studying mathematics or aiming to teach it to join us. We also target Teaching Schools and liaise with NCETM and the Mathematics Hubs. Targeted mailings are generally more successful, but people rarely use the offered code to claim a first year reduction, so it is hard to monitor results.

We regularly advertise The Mathematical Association in magazines such as *Teach Primary* and *Teach Secondary* and work closely with other mathematics organisations, keeping in touch and supporting each other as well as working together on specific projects. Our Facebook page <https://www.facebook.com/groups/136275943093334/> helps to keep people up to date with mathematics related news. Council members and others also regularly tweet and there is now a Twitter link on the website. These help to raise the profile of The Mathematical Association and help members and others interested in mathematics to keep in touch with each other and what is happening in the wider world of mathematics.

I am grateful to the Membership committee for their continued support over the last year.

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***Cherri Moseley (Chair of Membership)***

### **United Kingdom Mathematics Trust (UKMT)**

The numbers of students entered for the Mathematics Challenges this year were as follows: Junior 293,940; Intermediate 259,480; Senior 109,660. There was a record number of entries to the Senior Challenge, and entries to both the Intermediate and Junior Challenges were also up compared to 2013/14. Over 1,750 teams entered the Team Mathematics Challenge, and 1,150 teams entered the Senior Team Mathematics Challenge, both these numbers up on the previous year. In addition, six teacher meetings are due to take place in the early summer 2015, in Aberdeen, Cambridge, Coventry, Greenwich, Oxford and York, and students continue to benefit from the mentoring scheme. There is an increasing list of mathematical books published by UKMT, with another new book planned for later in 2015.

In July 2014, the International Mathematical Olympiad (IMO) was held in South Africa, and the UK team came back with 4 Silver and 2 Bronze medals, and came 20th out of 101 participating countries. This summer, the IMO is being held in Thailand. In 2019, which will be the 60th anniversary of the competition, the IMO will be held in

the UK. The 2015 European Girls' Mathematical Olympiad was held in Minsk, and the UK team was awarded 2 silver and one bronze medal, and came 12th out of 30 participating teams. A UK team was also sent to compete in the Romanian Master of Mathematics, where they came 4th out of 17 teams, just behind China.

The UKMT continued to run activities introduced in recent years. More students were invited to participate in the Kangaroo rounds, and a new Junior Kangaroo follow-on competition will take place later this academic year. We organised 16 Mathematical Circles this year and arrangements are in place for our four summer schools in July and August. A new set of Primary Team Mathematics resources was launched in January 2015. This set of materials was once again produced with the aim of providing secondary schools with materials to run mathematical events for their feeder primary schools. The teacher notes accompanying these resources refers teachers to further relevant materials including the *Primary Mathematics Challenge*, and links to the MA website.

The dates for the challenges in 2015-16 are: Junior Challenge (ages 11-13): Thursday 28 April 2016; Intermediate Challenge (ages 13-16): Thursday 4 February 2016; Senior Challenge (ages 16-18): Thursday 5 November 2015. In addition to these three challenges, students who do well are invited to take part in the follow-on rounds, the Junior, Intermediate and British Mathematical Olympiads and the Kangaroos.

The UKMT welcomes donations regardless of size. Further information can be found at [www.donate.ukmt.org.uk](http://www.donate.ukmt.org.uk).

The work of the UKMT would not be possible without the help it receives from its large number of volunteers. To find out more about volunteering for UKMT see <http://www.getting-involved.ukmt.org.uk/>

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***John Silvester (MA representative)***

### **The British Mathematical Olympiad Committee**

The International Mathematical Olympiad in July 2014 was held in Cape Town, South Africa. The UK team of six came away with four silver and two bronze medals, placing the UK 20<sup>th</sup> out of 101 participating countries. At the resultant celebration of their achievement at the Royal Society in September, Professor Bernard Silverman gave a lecture entitled *Mathematics and Science in the Home Office*. The UK has been confirmed as host for the 2019 IMO.

Other international Olympiads during the year included, in April 2014, the European Girls Mathematical Olympiad in Antalya in Turkey, at which the UK team of four gained two silver medals, placing them 8<sup>th</sup> out of 29 countries, the best result in the competition's three years. The Balkan Mathematical Olympiad in May 2014 was held in Pleven, Bulgaria; one silver, two bronze medals and three honourable mentions (for participants who score full marks on at least one question, without qualifying for a medal) placed the UK 10<sup>th</sup> out of 21 countries. In the more recent Romanian Master of Mathematics, February 2015, the UK came fourth out of 17 participants, an excellent result, the students gaining one gold, two silver medals

and three honourable mentions.

The national competitions were held in September (Mathematical Olympiad for Girls), November (British Mathematical Olympiad Round 1), and February (British Mathematical Olympiad Round 2).

Six Summer Schools, mostly for students from Years 11 and 10, were held again, two at Leeds, the rest in Oxford, including one for girls and two with funding from the DfE; sadly this funding is not to be continued.

Various training camps were held as usual; and the mentoring scheme continues at appropriate levels for all ages in schools.

***Philip Coggins (MA Representative)***

**Headquarters**

During 2014-15, the Headquarters Team was:-

Senior Administrator	Marcia Murray
Finance Officer	Linda Medhurst
Membership Officer	Charnjit Seehra
Administrative Assistant	Lisa O'Donnell
Clerical Assistant	Alice Hall

***Marcia Murray (Senior Administrator)***

**Association Regulations**

Regulations can be viewed at:

<http://www.m-a.org.uk/jsp/index.jsp?lnk=850>

**The Council from April 2014**

Presidents

President	Lynne McClure
Immediate Past President	Peter Ransom
President Elect	Peter M Neumann

Officers

Chair of Council	Adam McBride
Secretary	Chris Pritchard
Treasurer	Bill Richardson

Chairs of Committees

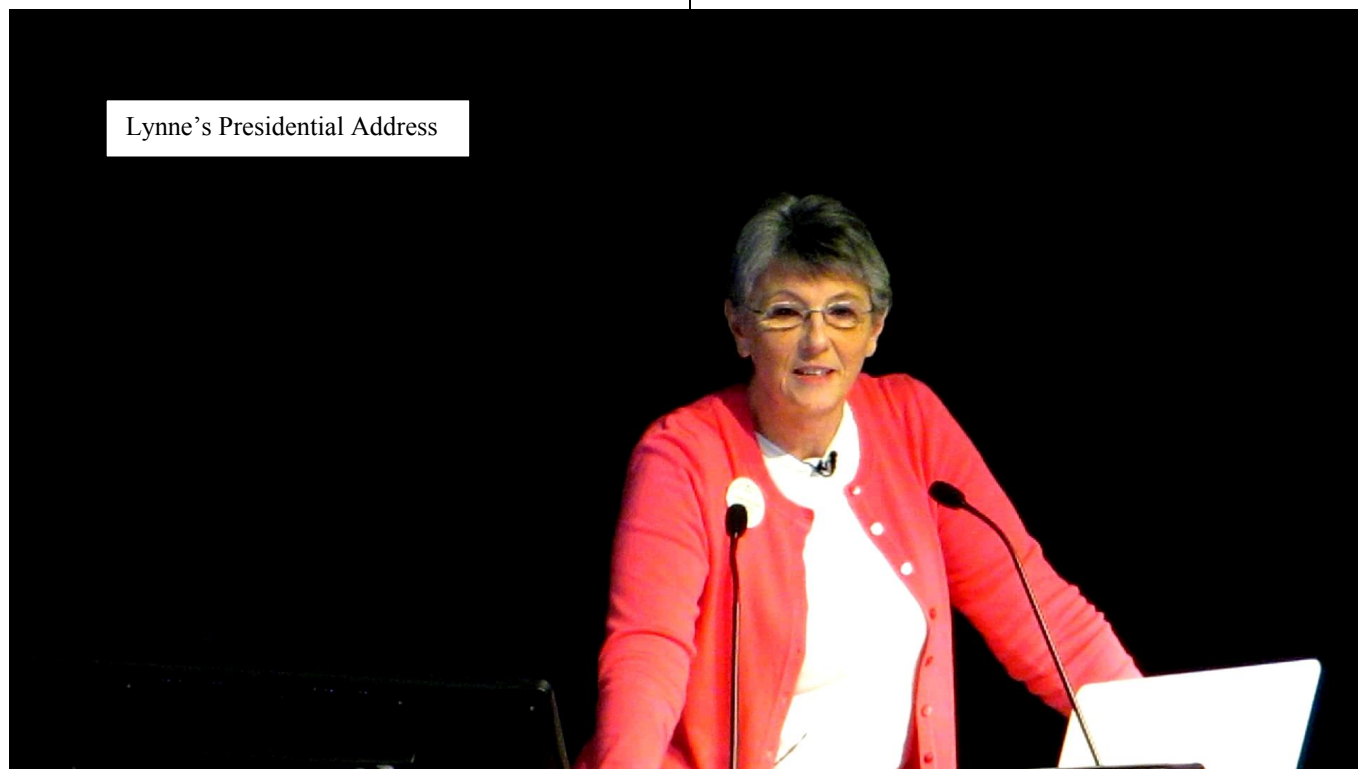
Branches	David Pountney
Conferences	Peter Ransom
Editor-in-Chief	Paul Harris
Professional Development	Julia Brown
Publications	Barry Lewis
Membership	Cherri Moseley
Teaching Committee	Rachael Horsman
Publicity & Media	Fiona Allan

Members-without-Office

Gosia Marschall	Paul Metcalf
David Miles	Charlie Stripp

The Company Secretary

Mr Bill Richardson



**THE MATHEMATICAL ASSOCIATION**  
(A company limited by guarantee)

REGISTERED NUMBER: 05729264

**BALANCE SHEET**

**AS AT 31 DECEMBER 2014**

	2014	2013
	£	£
<b>FIXED ASSETS</b>		
Tangible	294,283	297,132
<b>CURRENT ASSETS</b>		
Stocks	14,993	14,035
Debtors	35,869	15,000
Cash at bank	<u>254,257</u>	<u>284,847</u>
	305,119	313,882
<b>CREDITORS:</b> amounts falling due within one year	<u>(77,527)</u>	<u>(83,211)</u>
<b>NET CURRENT ASSETS</b>	227,592	230,671
<b>TOTAL ASSETS LESS CURRENT LIABILITIES</b>	<u><u>521,875</u></u>	<u><u>527,803</u></u>
<b>REPRESENTED BY</b>		
Revaluation reserve	135,000	138,000
Restricted funds	6,500	6,500
Unrestricted funds	<u>380,375</u>	<u>383,303</u>
	<u><u>521,875</u></u>	<u><u>527,803</u></u>

The financial statements have been prepared in accordance with the special provisions of Part 15 of the Companies Act 2006 relating to small companies and in accordance with the Financial Reporting Standard for Smaller Entities (effective April 2008).

The financial statements were approved and authorised for issue by the Council and were signed on its behalf on 8 April 2015.

Prof. A C McBride O.B.E.

Chair of Council

Mr W P Richardson M.B.E.

Treasurer

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